ZYXEL





NAP102

802.11ac Dual-Radio Nebula Cloud Managed Access Point

The Zyxel Nebula NAP102 802.11ac Dual-Radio Nebula Cloud Managed Access Point is a high-performance, cloud-managed 2x2 MIMO 802.11ac AP designed for deployments in offices, schools, hospitals, hotels and retail stores. With ultra-fast speeds of up to 1.2 Gbps, the Nebula NAP102 has revolutionized cloud managed wireless networking to a higher entry level. Featuring dual-concurrent, dual-band operation and advanced technologies such as Dynamic Channel Selection, Load Balancing and Smart Client Steering, the NAP102 delivers high throughput and reliable coverage for a superb Wi-Fi experience.

Every Nebula AP has been engineered for cloud management. Based on the NETCONF standard, all data traffics between the cloud and access points are exchanged using secure transports to ensure transaction-safe configuration on all Nebula devices. Furthermore, with the intuitive management interface, administrators are able to manage all the access points quickly even without training.

Benefits

Zero-touch deployments

The Zyxel Nebula NAP102 auto-configures itself after installation and then automatically connects to the Nebula cloud to join the network; so auto-configuration, provision, monitoring and diagnostics can be performed anytime, anywhere. This simplifies network setup and enables deployment of Nebula APs to a remotely located network even by non-IT professionals.



Cloud-managed, dual-radio 2x2 MIMO 802.11ac access point



Supports combined data rates of up to 1200 Mbps



Self-configuration and zerotouch deployment



Enterprise-class security and RF optimization



Dynamic Channel Selection, Load Balancing and Smart Client Steering



Optimized wireless experience

The Zyxel Nebula NAP102 delivers optimized wireless experience for users with comprehensive wireless features such as Dynamic Channel Selection (DCS), Load Balancing, and Smart Client Steering, etc. DCS avoids interference from co-channeling and overlapping channels continuously, while Load Balancing and Smart Client Steering which features Band Select and Balance for more spectrum to provide more stable, reliable wireless connections.

Smoke detector design that blends into environments

Different from traditional business access points, the Zyxel Nebula NAP102 comes in a "smoke detector" ceiling-mount design. Since the "smoke detector" design is not invasive, there is no need to hide it behind the ceiling tiles; and the ceilingmount optimized RF design can provide its best performance and coverage. In addition, the NAP102 is plenum-rated and made of non-toxic materials without hazardous emission – critical for public indoor wireless deployments.

Enterprise-class security

The Zyxel Nebula NAP102 inherits the NETCONF protocol for secure configuration changes. In terms of authentication and data encryption, it supports WPA2 enterprise protection and a wide range of Extensible Authentication Protocol (EAP) types, including EAP SIM for smartphones. Besides, the NAP102 also features access control and Layer-2 isolation for privacy protection. The comprehensive security features ensure NAP102 to deliver enterprise-grade protection to the entire network.

Ultra-fast speed

The Zyxel Nebula NAP102 is a 2x2 802.11ac AP that provides Gigabit Wi-Fi experience. The concurrent dual-band support meets the pervasive BYOD demands to support more clients with equal signal coverage in both 2.4 GHz and 5 GHz bands.



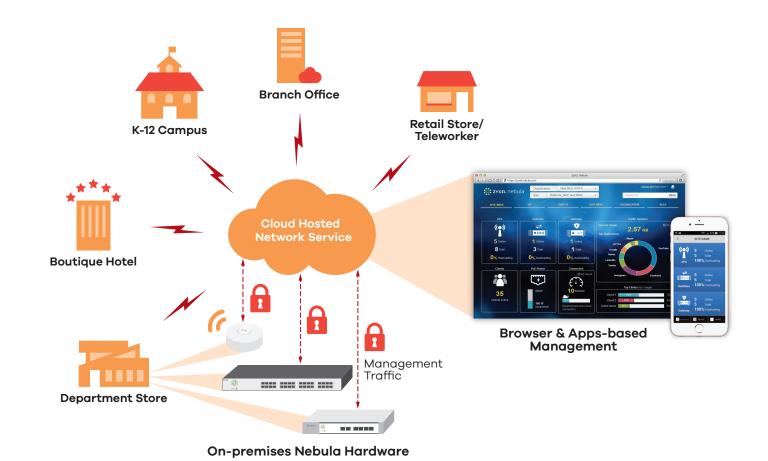
Real-time control of all the devices through a single pane of glass



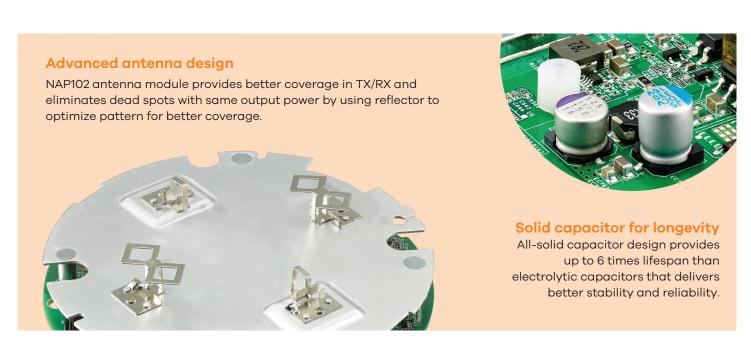
Monitor AP usage and client report by different time intervals and view historical status record via the intuitive management interface

Applications Diagram

Nebula cloud management architecture



Robust Hardware



Specifications

Model	NAP102
Product name	802.11ac Dual-Radio Nebula Cloud Managed Access Point
	27701.

RF Specification	าร			
Frequency band		2.4 GHz (IEEE 802.11 b/g/n) • USA (FCC): 2.412 to 2.462 GHz • Europe (ETSI): 2.412 to 2.472 GHz • Taiwan (TW): 2.412 to 2.462 GHz	 5 GHz (IEEE 802.11 a/n/ac) USA (FCC): 5.15 to 5.35 GHz; 5.725 to 5.850 GHz Europe (ETSI): 5.15 to 5.35 GHz; 5.470 to 5.725 GHz Taiwan (TW): 5.15 to 5.35 GHz; 5.725 to 5.850 GHz 	
802.11n/ac premium features		 2x2 Multiple-Input Multiple-Output (MIMO) with two spatial streams Maximal Ratio Combining (MRC) 20-, 40- and 80-Mhz channels Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Tx/Rx) 	 Cyclic Delay Diversity (CSD) support Maximum Likelihood Demodulation (MLD) support Low Density Parity Check (LDPC) support 	
Conducted typical	FCC 11b/g	23		
	FCC 11g/n	23		
transmit output power	FCC 11a	26		
(dBm)	FCC 11n/a (ac)	26		
(42,	EU 11b/g	20		
	EU 11g/n	20		
	EU 11a	26		
	EU 11n/a (ac)	26		
Antenna system		Embedded internal antenna		
Antenna gain		2.4 GHz 3 dBi; 5 GHz 4 dBi		
Support data rate		 802.11 a/g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps 802.11n: up to 300 Mbps in MCS15 (40 MHz; GI = 400 ns) 802.11ac: up to 866 Mbps in MCS9 (80 MHz; 2 spatial streams; GI = 400 ns) 		
Receive sensitivity		Min. Rx sensitivity up to to -99 dBm		
Interfaces				
Number of 10/100/1000M LAN		1		
Console port		4-Pin serial		
PoE		Yes		
PoE power draw		9 W		
Wireless Securit	ty			
WEP		Yes		
WPA/WPA2-PSK		Yes		
WPA/WPA2-Enterprise		Yes		
WLAN access control list		Yes		
EAP types		TLS, TTLS, PEAP, FAST, AKA and SIM		
IEEE 802.1X		Yes		
Number of SSID		16		
MAC filtering		Yes		

Virses Security				
RADIUS auther tication Yes Oaptive port to 1 yes Ves Ves Ves WMM poer to 2 Yes WMM poer to 2 Yes Management to 1 Cloud mange to 1 Yes Management to 2 Yes Cloud mange to 2 Yes Management to 2 Yes Colvetifier Yes Some to 2004 discovery Others The 2 Yes Septement colspan="2">Yes The 3 Yes The 4 Yes The 3 Yes The 4 Yes The 5 Yes EB 802.36 EEE 802.36 EEE 802.36 EEE 802.36 EEE 802.36 EEE 802.36 EEE 802.36 EEEE 802.36 <th< th=""><th></th><th></th><th></th></th<>				
Captive portal Yes Network VLANs Yes DHCP client Yes WMMM Yes WMMM power save Yes WMMM power save Yes Uiffers marking Yes Monagement Cloud monaged Yes Cloud monaged Yes Somet connect Neighbor device discovery Others Semat connect Neighbor device discovery Others Ves Somet connect Neighbor device discovery Others Plenum rating Yes Neighbor device discovery Others Plenum rating Yes Neighbor device discovery Others Plenum rating Yes Neighbor device discovery Others <th cols<="" th=""><th colspan="2">Layer-2 isolation</th><th>Yes</th></th>	<th colspan="2">Layer-2 isolation</th> <th>Yes</th>	Layer-2 isolation		Yes
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DHCP client	Network			
MMM	VLANs		Yes	
WMM Yes WMM power save Yes DiffServ marking Yes Management Cloud managed Yes ZON utility Support Smart connect Neighbor device discovery Others Plenum rating Yes Plenum rating Yes MTBF (hr) 1,727,244 Standard Compliance Ethernet IEEE 802.3 IEEE 802.3u PoE IEEE 802.3 iEEE 802.3u PoE IEEE 802.3 iEEE 802.3u VILL Add Add Compliance Ethernet IEEE 802.3 iEEE 802.3u VILL Add Compliance Ethernet Ene 802.3u <th colspa<="" th=""><th>DHCP client</th><th>t .</th><th>Yes</th></th>	<th>DHCP client</th> <th>t .</th> <th>Yes</th>	DHCP client	t .	Yes
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Support Support Support Others Plenum rating Yes Input power 12 VDC, 1 A MTBF (hr) 1,272,244 Standard Coveriors Ethernet IEEE 802.3u PoE IEEE 802.3af WLAN • 802.1tlp: BPSK, QPSK, 16-QAM, 64-QAM • 802.1tlp: BPSK, QPSK, 64-QAM, 256-QAM • 802.1tlp: BPSK, QPSK, 16-QAM, 64-QAM • 802.1tlp: BPSK, QPSK, 16-QAM, 64-QAM • 802.1tlp: BPSK, QPSK, 16-QAM, 64-QAM • 802.1tlp: BPSK, QPSK, 64-QAM, 256-QAM • 802.1tlp: BPSK, QPSK, 64-QAM, 256-QAM • 802.1tlp: BPSK, QPSK, 16-QAM, 64-QAM • 802.1tlp: BPSK, QPSK, 16-QAM, 64-QAM <th>Manageme</th> <th>nt</th> <th></th>	Manageme	nt		
Smart connect Neighbor device discovery Others Plenum rating Yes Input powr 12 VDC, 1 A MTBF (hr) 1,727,244 Standard Compliance Ethernet IEEE 802.3, IEEE 802.3u PoE IEEE 802.3 iEEE 802.3d WLAN **** BEE 802.3d WLAN *** B02.1tib. BPSK, QPSK, 16-QAM, 64-QAM *** 802.1tib. BPSK, QPSK, 64-QAM, 256-QAM *** 802.1tib. BPSK, QPSK, 64-QAM, 256-QAM *** 802.1tib. BPSK, QPSK, 64-QAM, 256-QAM *** 802.1tib. BPSK, QPSK, 16-QAM, 64-QAM *** 802.1	Cloud managed		Yes	
Plenum rating Yes 12 VDC, 1 A 12 VDC, 1 A 13 VDC, 1 A 13 VDC, 1 A 14 VD	ZON utility		Support	
Plenum rating power	Smart connect		Neighbor device discovery	
Input power	Others			
MTBF (hr) 1,727,244 Standard Compliance Ethernet IEEE 802.3, IEEE 802.30 PoE IEEE 802.3 f WLAN • 802.11b: DBPSK, DQPSK, CCK • 802.11g: BPSK, QPSK, 16-QAM, 64-QAM • 802.11b: BPSK, QPSK, 16-QAM, 64-QAM • 802.11b: BPSK, QPSK, 16-QAM, 64-QAM • 802.11b: BPSK, QPSK, 16-QAM, 256-QAM Certification EMC ETSI EN 300 328 V1.71: 11-2006, EN 301 893 V1.51 FC Part 15247, FCC Part 15E, LP0002, EN 60601-1-2: 2007 EMC EN 301 489-1 V1.81: 11-2008, EN 301 489-17 V2.11: 05-2009 EN 50022: 2010, EN55024: 2010, EN61000-3-2/-3 FCC Part 15.107, BSMI CNS13438.99, CNS14336: 99 EN 60950-1: 2006 + A11: 2009 + A1: 2011, IEEE 60950-1: 2005; BSMI Physical Specifications Item Dimensions (WxDxH)(mm/in.) 300/0.67 Packing Dimensions (WxDxH)(mm/in.) 278 x 209 x 72/10.94 x 8.23 x 2.83 Meight (g/lb.) 700/15.4 Included a	Plenum rating		Yes	
Standard Compliance	Input power		12 VDC, 1 A	
PoE	MTBF (hr)		1,727,244	
PoE	Standard C	ompliance		
WLAN	Ethernet		IEEE 802.3, IEEE 802.3u	
\$802.11g: BPSK, QPSK, 16-QAM, 64-QAM	PoE		IEEE 802.3af	
Certifications Radio ETSI EN 300 328 V1.71: 11-2006, EN 301 893 V1.5.1 FCC Part 15.247, FCC Part 15E, LP0002, EN 60601-1-2: 2007 EMC EN 301 489-1 V1.8.1: 11-2008, EN 301 489-17 V2.11: 05-2009 EN55022: 2010, EN55022: 2010, EN61000-3-2/-3 FCC Part 15.107, BSMI CNS13438.99, CNS14336: 99 Safety EN 60950-1: 2006 + A11: 2009 + A1: 2010 + A12: 2011, IEC 60950-1: 2005; BSMI Physical Specifications Item Dimensions (WxDxH)(mm/in.) 130 x 130 x 54.7/5.12 x 5.12 x 2.17 Weight (g/lb.) 300/0.67 Packing Dimensions (WxDxH)(mm/in.) 278 x 209 x 72/10.94 x 8.23 x 2.83 Weight (g/lb.) 700/1.54 Included accessories • Power adapter • Wall/Ceiling-mount plate Environmental Specifications Operating Temperature 0°C to 50°C/32°F to 122°F Humidity 10% to 90% (non-condensing) Storage Temperature -30°C to 70°C/-22°F to 158°F	WLAN		802.11g: BPSK, QPSK, 16-QAM, 64-QAM802.11a: BPSK, QPSK, 16-QAM, 64-QAM802.11n: BPSK, QPSK, 16-QAM, 64-QAM	
FCC Part 15.247, FCC Part 15E, LP0002, EN 60601-1-2: 2007 EMC	Certificatio	ns		
EN55022: 2010, EN55024: 2010, EN61000-3-2/-3 FCC Part 15.107, BSMI CNS13438.99, CNS14336: 99 Safety	Radio			
IEC 60950-1: 2005; BSMI Physical Specifications Item Dimensions (WxDxH)(mm/in.) 130 x 130 x 54.7/5.12 x 5.12 x 2.17 Weight (g/lb.) 300/0.67 Packing Dimensions (WxDxH)(mm/in.) 278 x 209 x 72/10.94 x 8.23 x 2.83 Weight (g/lb.) 700/1.54 Included accessories • Power adapter • Wall/Ceiling-mount plate Environmental Specifications Operating Temperature 0°C to 50°C/32°F to 122°F Humidity 10% to 90% (non-condensing) Storage Temperature -30°C to 70°C/-22°F to 158°F	EMC		EN55022: 2010, EN55024: 2010, EN61000-3-2/-3	
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<u> </u>		Humidity	10% to 90% (non-condensing)	
Humidity 10% to 90%	Storage			
		Humidity	10% to 90%	











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